

Diagnostic value of ultraweak chemiluminescence of cells subjected to the oxidative stress

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Ultraweak chemiluminescence response of yeast and spermatozoa cells to certain chemicals inducing the oxidative stress is monitored *in vivo* by means of the single photon counting technique. An increase in the intensity and light sum of chemiluminescence is observed upon action of: (i) O₂, formaldehyde, paraquat and trichloroacetic acid on the yeast culture *Saccharomyces cerevisiae* and (ii) O₂, Fe^{2+/3+}, Fe²⁺-ascorbate and formaldehyde on the spermatozoa cells of bull, ram and boar. A correlation between the increase in chemiluminescence and the vitality and motility of sperms is examined. The chemiluminescent technique may be useful as a fast auxiliary diagnostic tool for examining the effects of reducing/oxidizing agents on vegetative and generative cells.